

The pros and cons of modern technology for today's kids

By Rachel Taniwha, Family Times Online News Magazine

It's not uncommon to see a toddler on an iPad, children with smart phones and the latest "apps," and to wonder, what has happened to kids these days? Being a child today is very different from previous generations; things are moving at an extra fast pace with modern technology such as the internet offering both benefits and disadvantages to parents, and increasingly, children.

It's no small thing. Sir Peter Gluckman, the prime minister's chief science adviser, described the internet as "the most profound change" in communications since we learned to speak, and spoke about the impact of the technological world on children's and adolescent health and behavior in a report for the Families Commission earlier this year.

Computers – the way of communicating?

Computers were a rare luxury in schools a generation ago – perhaps just a dedicated computer room and limited use for pupils, with limited capabilities as well. Comparatively, technology today is mind-boggling.

Now social networking means instant contact at anytime with anybody in the world, plus the bonus of virtually living vicariously through the computer screen. With web cams and online live streaming, it's as simple as a click of the mouse.

It's this topic that Sir Peter explored. Modern technology has changed the way we communicate and interact – from verbal and personal, to electronic. And electronic forms of communication that exclude body language, such as text messages and Tweets – leave a lot of room to be misinterpreted or misunderstood.

Stuart Wright, of UCANDO, is a leading New Zealand facilitator of Accelerated Learning and Whole Brain Learning Techniques. Wright believes that technology, with all its positives, is now encouraging learning by doing things at great haste without any logical analysis or even concern for the consequences. "The whole culture of text messages and computer games is about speed and instant hits rather than more profound or detailed ways of handling information."

How technology influences brain development

Sir Peter suggested that the most important period for developing resilience is in early childhood when there is greater ability to influence brain development. He described today's children as the guinea pigs in "a new world we don't fully understand."

"The digital world is leading to different ways in which the brain develops, different environments in which we learn . . . and it does seem to be having impacts on cognitive, social and emotional development," he said.

Wright agrees, saying that the nervous systems of today's tots, tweens and teens are constantly being trained to watch, not listen. "All those fast-moving primarily visual images that this generation is constantly bombarded with every day arouse the right hemisphere at the expense of the left side. What is the left responsible for? Language proficiency skills, logical sequence and reasoning."

Are our kids taking more risks?

The Parenting Place creative producer, John Cowan, says that with all the technological know-how, children lack something adults have owned for years – a properly functioning pre-frontal cortex. "That part of the brain handles risk assessment and social behavior, and brain research says it isn't working properly until a person is in their mid-twenties ... so your young person might be bright and clever but you have instincts, wisdom and risk-assessment skills that they won't have for another decade."

The Families Commission's interim chief commissioner, Belinda Milnes, says she has tried to encourage her two daughters (aged 8 and 10) to take calculated risks after they have thought through what could go wrong. "For example we might say, "Sure you can jump off that shed roof, but what do you think is the worst

that might happen? Do you think you can do something to make it safer? Do you still think it's a good idea?" It doesn't always stop them but I guess at least they are learning cause and effect and to take responsibility for their own decisions."

A pre-digital world?

Cowan says that parents can remember a time before mobile phones and home computers, but kids can't – their world is digital. "They live in a connected world; they know technology and they love it. They are the first generation that have to show their parents how to do things, rather than vice versa. Can we really guide and protect our kids in a world that they know better than we do?"

With guidance, he believes parents can. "While we may not be as familiar with all the gadgets, we know what our kids are doing. They are chatting, flirting, looking at pictures, shopping, fighting, listening to music, making friends, watching movies, arguing, reading, joking, playing games, hanging out... in other words, the same things kids have done for ages, but they're doing it digitally, doing it more and, increasingly, doing it without adult coaching or protection."

Milnes says the pace of technological change is both exciting and terrifying for parents. "Today's children really are digital natives and soon even the most technologically-savvy parents will be left behind. I saw my 10-year-old coaxing her 84 year-old granddad to use an iPad for Google searches the other day which was fantastic."

She says she loves the way this generation of kids have no perceived limits on what technology can and can't do. "The concept of a 3D printer churning out household items from downloadable plans instead of going to the hardware shop really challenges my whole world, but my daughters think it is brilliant and would like one for Christmas!"

The effect on education

Children are becoming more technologically-savvy, albeit perhaps lacking some awareness of its limitations. But what effect does this greater cyber knowledge have on their teachers? Sir Peter argued that children could require a certain type of teacher in order to cope with these changes.

Wright, an education specialist, said that the education system is actively encouraging the use of computers in virtually all of the learning activities in which instant communication is paramount. Yet he says that computers should not be children's main source of gaining knowledge. "I believe schools need to start thinking seriously about providing a refuge from computers for at least part of the day to allow students to start developing the very skills that this technology seems to be quashing: linear analytical thought, sequential argument, reflection."

He feels that students should be taught verbal and logical skills that require concentration and perseverance in their formative years, to counter-balance learning dominated by visual experience that requires little concentration and no perseverance. Furthermore, both parents and teachers shouldn't cater solely to their "learning style," he says, as "It is claimed that we remember up to 90% of not only what we see, but what we say, hear and do."

Wright says parents could encourage their children to listen, read stories to them, tell stories about themselves as children, and get them to listen to their grandparents about their days growing up. "Encourage lots of singing with words they can understand. Have a guitar and encourage a singsong at the party. Encourage lots of color and freehand drawing and doodling, not just on the computer. If they have Lego don't just design what is on the box but fuel their imagination and then get them to create something and explain what it is."

So there are ways parents can help their children develop resilience to modern technology and to make the most of the advantages it provides. Milnes says the ability to think creatively and develop solutions via modern technology is "going to be increasingly valuable, as will the ability to weigh and judge information. And perhaps knowledge won't need to be held in our brains anymore, but finding it and using it in new ways will be even more important."